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BEFORE THE

SENATE SUBCOMMITTEE ON OCEANS AND FISHERIES

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The Sustainable Fisheries Act (SFA) created several problems for conservation-oriented fishermen and fishery managers. These problems include:

- Mandating achievement of Maximum Sustainable Yield (MSY) for all species, and other scientific problems.
- A forced redirection from an evolution towards ecosystem management to unnatural "management-by-the- numbers."
- Less consideration of social and economic issues, as well as decreased consideration of impacts on communities, despite the addition of a national standard to address these concerns.
- Increased stress and uncertainty in the fishing community because of:
  - The rapid time frame required to develop plans for species defined as overfished
  - The setting of unrealistic over fishing definitions
  - The setting of unrealistic rebuilding schedules
- The de-linking of approval of management plans from their actual implementation.
- The increased use of framework actions to avoid environmental impact statements.
- The concept of husbanding, rather than management
- And a few words about capacity

MSY

MSY, the underpinning of the SFA, is a concept that had lost favor in much of the scientific and management community because of practical and theoretical problems. MSY for a given geographic area may well be definable, e.g. the productive potential for Georges Bank is definable and relatively stable. But the biomass levels of individual species and stocks within that area may vary widely, for reasons having nothing to do with fishing mortality. A cold winter favors some species, a warm one favors others. An incursion of the Labrador Current or an eddy from the Gulf Stream may have profound influence, or almost none at all.

Further, the productive potential for Georges Bank cannot be exceeded. No matter what the law says, if the area cannot support MSY of all species at once, it will not. A field may be able to produce 200 sunflowers, or 500 stalks of corn, or 50 soybean plants, or any mix of the three -- but it cannot support all at once.

How, then, can any area maintain all species at a historic high at the same time? The answer is simple: It cannot. But when this question is raised, we are told that SFA allows no leeway to set realistic targets, or to take into account the natural ebb and flow between species. You must give that leeway. How can anyone buy into a system that is illogical in concept and practice, let alone manage effectively within it?

Overfishing definitions

A cursory glance at some of the overfishing definitions submitted by the Councils demonstrates the absurdity of a fishery management system based solely on numbers. Many of the mathematical formulas used in fishery management rely on biomass figures generated from NMFS's semiannual survey cruises, wherein 350-400 samples are taken -- from North Carolina to Canada -- of species abundance. Yet stock biomass levels for the entire region are extrapolated to the pound.

The result of any mathematical formula is only as accurate as the least accurate number used in the formula. Numbers that should be rounded to even 100's are being expressed to the fourth decimal point. That a formula produces a number does not mean the number is valid.

We have overfishing definitions based on averages of three year averages. Yet, we must treat the resulting number as fact. In the best of situations, with the best data that NMFS has, the New England Fishery Management Council (NEFMC) is attempting to manage codfish based on information collected 2 years ago. What a waste of time, resources, and talent it is to jump through hoops to make the numbers work under the assumption that management to a fixed point based on two year old data makes sense.

The NEFMC has been told that, to achieve the mandates of the SFA, fishing mortality for George's Bank winter flounder must be cut by 80%. But, if there is no cut at all, the stock will recover to the stock biomass goals by the end of the same year, and in the following year, no cut would be needed because the biomass would be large enough to support the higher fishing mortality rate. It is almost inconceivable to the industry that such large cuts would be implemented when no cut will achieve the same goal.

The discussion on MSY and the overfishing definitions point out the problem of developing a numbers based system, when numbers may not be appropriate. Some species will never be appropriate for numbers based management, some species might be if the numbers were definite. But, given the present state of knowledge and the present state of resources it is inappropriate to think this system can work well. Fisheries science is still a science – meaning that all of the answers are not known. There is a need for research. There are unanswered questions. The SFA pressures fishery scientists and managers to pretend to know things they do not know. We all would be a lot better to acknowledge the level of our lack of knowledge. We all would be a lot better off to accept the current limitations of that knowledge and devise a management system that can accomplish more modest goals.

Best Available Science

There have always been questions raised by Industry as to why there is an automatic assumption that whatever they observe is anecdotal while whatever a scientist observes is fact. That problem is not going to go away. But the isolation of scientists from the management process is getting worse.

"Best available science" should not be whatever the Northeast Fisheries Science Center (NEFSC) wants to provide. There should be some obligation for the NEFSC to address serious issues brought forward by the Councils. A recent example regarding Cod should illustrated the problem from both the industry's and the NEFMC's perspective.

Various industry groups have for some years stated that the line demarcating the boundary between Gulf of Maine and Southern New England and Georges Cod, was in the wrong place, or should not exist at all. The NEFSC was asked if it had information that would support a different stock boundary between Gulf of Maine and Georges Bank. One year, it stated it could defend the line (not what was asked) and it was going to do a definitive otolith study. The next year, it said it could defend the line (not what was asked), and was going to start that otolith study mentioned last year. The year after that, it said one could possibly construct other lines and by the way, we are really starting that otolith study, but don't look at any of the historic information on tagging because we don't like it, and don't believe any of the current tagging that is being done by some industry members, because tagging studies only tell you where some of the fish were caught and released and caught again. Somewhat, I suppose, like the fish used in otolith studies are caught.

Recently the Council requested specific information from the NEFSC regarding stock boundaries for both Downeast Maine and the George's Bank Northern Edge stocks. The response did not provide that information. Whether the cod just north of 42°20' is really part of the Gulf of Maine stock, as our current management plan and the NEFSC claim, or whether it is part of the Georges Bank Northern Edge stock, as it was deemed historically, currently by the Canadians, and always by the fishermen, is very important to the offshore fishing community.

When the Councils ask questions, they need to be treated seriously. It took several years to find out there was information available (the tagging studies) which happened to mirror the stock boundary lines cited by fishermen. Neither the tagging studies nor the industry support the current line. NMFS must be told, by amendment to the SFA if necessary, that part of their job is to work cooperatively with the Councils and to seriously address questions relating to major management problems. We now have a 100 lb trip limit on one side of the line and 2,000 lb. trip limit on the other. It is really important that the line be in the right place. Or if there cannot be an appropriate line for this type of management, then the Council should be told that.

Best available science should not be only what the NMFS decides it wants to let the Councils and industry in on.

<u>Use of industry common wisdom</u>.

There has been an ongoing debate between industry, who usually support spawning closures and assessment scientists, who say it does not matter when a fish is caught. The assessment scientists usually insinuate that fishermen are naively applying human traits to fish. There is an interesting recent study from Canada that shows that codfish have individual fish-to-fish spawning rituals, and that disturbing the fish during those rituals significantly decreases the chances of spawning success for both that fish and a wide swath of fish near those disturbed. The pendulum has swung much too far toward numbers and away from those truths fishermen know because they must think like a fish to catch him.

This study, confirming that which we knew in our hearts to be true, has come after many years of the fishermen losing battles to close discreet valuable spawning grounds in the Gulf of Maine. We only got closures for Gulf of Maine cod, by subterfuge – they also happen to be areas of high catch. Think how much better off we would have been if science would have worked with fishermen and believed fishermen might just know something.

As icing to a bitter cake, we also found it interesting that scientists at our same Center were active in this same research before the Canadians -- and were offended we credited the Canadians!

Social, Economic, and Community Impacts

Though the addition of National Standard 8 was meant to increase awareness of community impacts, it seems to have had the opposite effect. This is primarily because National Standard One has been interpreted to override all other national standards. National Standard One has also been interpreted to override Maximum Benefit to the Nation. While healthy fish stocks are essential to us, there is a lot of leeway between the cost and benefits associated with different rates of recovery or different healthy levels of fish stocks. The ability for Councils to consider difference circumstances, different recovery rates and different levels of healthy stocks is essential. There are cases where a slight change in the rebuilding schedule would allow an industry to survive. There are locales where the existence of a certain type of fishing as a backup to normal activity in a bad year is essential. In many of these cases, the short term “overharvest” of a resource would still maximize the resource's benefit to the nation. Note I am not arguing to do away with the conservation goals and objectives of the SFA. Healthy fish stocks are essential for a healthy industry. Just as a sick patient may not be able to take the medicine that would cure the disease the fastest, because he could not survive, sometimes a slower route is the preferred route back to health for both fish and fisherman.

Because the formal amendment process takes so long, many plans have moved to a "framework" mechanism to make changes to management measures. This move was supported by both industry and managers. Both could see the benefit to be able to act more quickly. What was not anticipated was that frameworks would be used to make changes much more substantial than the average amendment had entailed previously. And, much to the surprise of many of us, it was determined that frameworks do not legally require the social and economic impact analysis needed for amendments. This is based on the premise that the range of potential impacts were already analyzed in the amendment. I defy anyone to find me one person who anticipated the inclusion of area closures as a frameworkable measure in Amendment #7 meant we had contemplated the consequences of most of the inshore areas of the Gulf of Maine being closed.

Since economic and social impact analyses are not being done, there frequently is little or no analysis of the differing costs of alternative measures that would meet the same goals.

This attitude has now seeped back into the plan development and amendment process. The Mid Atlantic Council states in their draft Tilefish Plan that it does not matter what the cost of certain measures is, they have to be done. As there are real choices available, with very significant different economic costs but probably minor differences to Tilefish, this seems a particularly cavalier example of the attitude being developed. If one alternative gets you to your goal in 8 years and costs the industry 25 million dollars and another alternative gets you to your goal in 10 years and costs the industry 5 million dollars, that is important information which should be known and considered when choosing between alternatives.

De-linking

Way back in the dark ages, councils submitted plans and there was no time limit for implementation. If NMFS did not like a plan but could find no basis for rejecting it, it just did neither. Congress solved this problem by imposing a deadline. Within X number of days from

submission NMFS must either disapprove or implement. That worked reasonably well, especially as there was a provision that those portions disapproved could be resubmitted relatively quickly.

SFA changed both of these items. The timeframe for approval/disapproval is still in place, but it now only applies to the plan, not the regulations. The ability to resubmit is no longer there. We now have a situation where plans have been approved for many months, but not implemented.

From a manager's point of view this is unacceptable because if a plan were developed because there is a resource problem, then the regulations need to be implemented as soon as possible.

From an industry member's point of view this is unacceptable because of the uncertainty not knowing causes. Even when one disagrees with the measures, in the past there was a point when one knew what was going to occur, and when. Now there is a point when one knows what is going to occur, but not when. Every time my boat comes in with two halibut, I panic, because maybe they finally implemented Amendment #9 and I am only supposed to have one. Some of these approved, but not implemented plans and amendments are approaching a year in limbo.

Rumors have it that NMFS is not implementing these plans and amendments because of fear of lawsuits. If there are real problems with the plans, they probably violate some national standard and should have been disapproved. If there are not real problems with the plans, they should be implemented. Congress needs to take this loophole out. The simplest way is to re-link approval and implementation.

Husbanding

The primary problem with SFA is the assumption we can make happen things we want to happen. The concept of husbanding is that one utilizes the resources available to oneself. One does what one can to increase those resources, but Mother Nature has a significant role to play. We would do all a great service by recognizing the hubris in SFA and embracing husbanding as a more appropriate role model.

Capacity

Over capacity appears to be one of the hottest topics of the day. While many have moved beyond the simplistic notion that multiplying fish hold capacity by number of vessels and dividing that into available resources gets some measure of excess capacity, there still is much confusion between questions regarding the number of boats within a certain fishery or area and the size of those boats. Frequently forgotten is the fact that fishermen spend much of their lives on these boats and comfortable galleys and heads and sleeping quarters add much to the quality of their lives.

The issue of excess capacity in broader terms has been discussed for many years. Ideas to address this problem have been suggested based on area management of capacity, rather than by species or plan. These ideas have always come up against the constraint that they are not legal. Make it legal. Make it legal for the Mid Atlantic and New England Council to develop a capacity plan for Cape Hatteras north across all, or most fisheries. When these ideas first surfaced, the other objection was that it might take ten years to show the desired results. That was more than ten years ago. Slower paths do not necessarily mean slower results.